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AIR POLLUTION MANUAL OF CODING. A CODING SYSTEM FOR THE IDENTIFICATION OF BASIC EQUIPMENT AND CONTROL DEVICES USED IN INDUSTRIAL PROCESSING

Peter Loquercio, et al

National Center for Air Pollution Control
Washington, D. C.

1968

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Air Pollution Manual of Coding

. . . A Coding System
for the Identification
of Basic Equipment
and
Control Devices Used in
Industrial Processing

By
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City of Chicago

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Special acknowledgment is made to JAMES V. FITZPATRICK, past Director of Chicago's Department of Air Pollution Control and ARTHUR R. DAMMKOEHLER, past Assistant Director, Engineering Services Division, under whose leadership this work was carried out. Of course, the objectives of the entire program, which necessitated the need for the manual, could never be achieved if there was no financial support from the Federal Government through the National Center for Air Pollution Control. Gratitude is expressed to VERNON G. MAC KENZIE, then Chief, Division of Air Pollution, U.S. Department of Health, Education, and Welfare, and VERNON HANSON, Regional Program Director for their support, advice and consultation during the development of this work.

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PURPOSE FOR THIS MANUAL

GENERALLY, it is regarded that air pollution emanates from four major areas: (1) Fuel consumption; (2) industrial activity; (3) refuse burning; and (4) motor vehicle emissions. Governmental agencies are charged with the duty of registering and regulating pollutants discharged from these sources. Some of the agencies fulfill these duties by the use of a "permit system" where the sources and the equipment associated with them are registered prior to the equipment's installation. Still other agencies register and regulate pollution from equipment by a single evaluation of the total process followed by an evaluation of its performance. Whatever methods of registration and regulation that are used, large amounts of paperwork and data will undoubtedly result, especially if the pollution

zone includes a large municipal urban area. These data must be continually sorted and correlated, evaluated and collated. Before proper decisions can be made regarding "planning" or promoting necessary legislation for abatement, these data must be well organized so that they may have optimum usefulness.

The Department of Air Pollution Control of Chicago immediately recognized this necessity when it started its comprehensive air resource management program in 1963. It was learned that organizing the data manually became a very tedious task—in fact—it became almost impossible to accomplish with any degree of accuracy. To obtain maximum usefulness of the information, computer correlations were required. However, since the art of air pollution control is a relatively new one, a complete new "language" or code had to be devised to translate the concepts so that they could be machine handled. In essence, it meant that a system had to be created to code various parameters such as: (1) Equipment associated with air pollution sources; (2) type of processing activity; (3) location of processing sites; (4) types of pollutants; (5) amounts of pollutants; (6) methods of control; and, (7) complaint histories.

In summary, therefore, the purpose of this manual is to provide a part of the coding system—the part to identify types of equipment, which, in turn can be synonymously identified with an air pollution source. If this code is subsequently combined with similar coding systems to identify all the other parameters mentioned, it is feasible to establish an automated, electronic "real time" system, which can yield continual information regarding the air pollution of any given areas within any given time. Such a tool can be invaluable for compilation of statistics required for extensive emission inventories.

Most important, however, it provides a method by which the "rate of change" in a pollution zone can be detected and evaluated mainly because a real time system is possible. The importance of this single concept was so appreciated by other municipal bureaus, two of the more important being City Planning and Urban Renewal of Chicago, that they too have started to develop programs based on "real time systems" principles. These programs have been designed with the potential for interchanging data between organizations.

HOW TO USE THIS MANUAL

IT SHOULD BE STATED at the outset, that the information supplied in this manual has been put to the test. It has been tried, applied, and revised—then tried and applied again. After 4 years of application, the use of the material is now functional and has become the nucleus for automated computer systems relative to the field of air pollution control.

To illustrate the application of the material, consider a brass casting process (fig. 1). This is an actual reproduction of the back side of a field engineer's worksheet, who was charged with the duty to make a survey of the process depicting all the air pollution sources. Examination of the flow diagram constructed shows these sources denoted by check marks

(✓). Control agencies register and regulate these sources through the use of the permit system; and, of course, also inventory them.

Figure 2, the front side of the worksheet shows the equipment associated with the sources, whether it is basic equipment or a control device, the type of pollutant emanating from it, if it is registered by permit and the code number describing the equipment. The worksheet contains other information also. For example, it lists the individual file number assigned to the company, the Standard Industrial Classification number relating to its processing activity, size of plant in terms of the number of employees, postal zone number of its location (this number is very useful in scheduling surveys within an area resulting in saving engineering time) and it contains data concerning "by whom" and "when" the survey was conducted.

Such data can easily be compiled on a data processing card (fig. 3) from which a *certificate of operation* or "permission to operate" can be printed (fig. 4). In most permit systems, these certificates are the crux of the entire scheme. It is the tool by which the control agency "regulates". Laws are usually written into codes stating that *"it is unlawful to operate without an effective certificate of operation"*—and there are still more laws stating that these certificates can be revoked for failure to comply with various regulations and limitations.

Such are some of the basic mechanics of a typical permit system. By the use of this manual, the administering of the permit system can be made automatic and operated electronically. Add to it a coding system describing the kinds of pollution and their amounts, and a real time type emission inventory becomes feasible. Any of the factors printed on the card (fig. 3) can be correlated with one or all of the other factors depending on the data processing outputs desired.

DESCRIPTION OF THE MATERIAL IN THE MANUAL

THE MANUAL is prepared in two parts. Part I lists some of the industrial activities by their Standard Industrial Classification number and the equipment associated with the air pollution sources found in that activity. Part II illustrates the code numbers assigned to the equipment; two digit numbers representing control devices while the three digit numbers are assigned to the basic equipment. By definition, basic equipment is equipment from which the pollutant is primarily discharged. The basic equipment is further categoried by assigning a series of numbers according to the "unit process" under which it may be found. For example, under "fluid flow"—spray booths, dip tanks, washers, etc. are listed. There are 18 different unit operations listed, each defined and including a series of three digit numbers assigned to the specific category. Blank spaces are included so that other types of basic equipment associated with air pollution sources may be added.

Next to the equipment code number, some information is supplied to aid the field engineer in obtaining quantitative information regarding that specific unit of equipment. This has proved very useful, especially where various emission factors have already been developed. For example, under "coffee roasters"—No. 275—emission factors have been published

on the basis of "pounds of dust per ton of green beans roasted." By referring to the manual, the field engineer will immediately know that the figure relating to the amount of green beans roasted must be obtained before the total emissions for that particular operation can be calculated. He need not know the exact emission factor number. This is a constant that can be programed directly into the computer.

It will be noted that Part I of this manual is not a complete listing and classification of all industrial activities, but consists chiefly of those industrial processes found in the Chicago area.

FILE NO. 6950 S.I.C. 3520 ZONE 6 SHEET NO. 1-1

NAME OF COMPANY A-Z FOUNDRY ADDRESS 1234 S. PINE ST.

TYPE OF PROCESS BRASS JOB FOUNDRY

FIGURE 1 - FLOW DIAGRAM OF BRASS CUTTING PROCESS

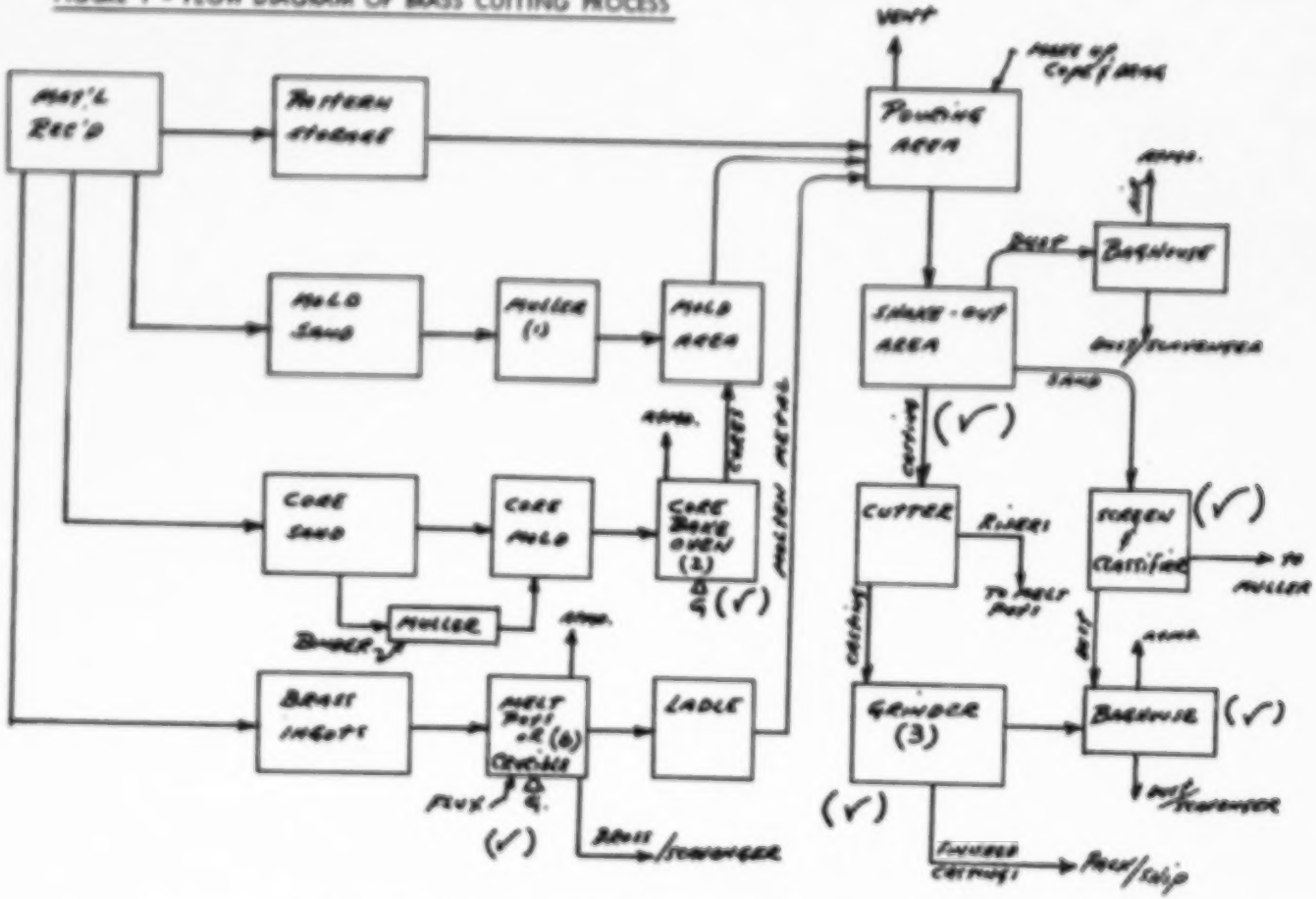

FIGURE 1.—*Flow diagram of brass cutting process*

ENGINEERING SERVICES — EVALUATION SUMMARY WORKSHEET

DEPARTMENT OF AIR POLLUTION CONTROL — CITY OF CHICAGO

ASSIGNED TO _____ DATE MAY. 1. 1964

INSTALLATION PERMIT NO. _____ DATE _____

TIME STARTED 10:00 A.M. TIME FINISHED 12:00 Noon

☐ NEW ☑ EXISTING ☐ REVISED ☐ ADDITION

FIRM NAME A-Z FOUNDRY ADDRESS 1234 S. PINE ST.

PHONE NO. 466-7890 RESPONSIBLE PERSON MR A. SMITH TITLE SUP'T

NATURE OF BUSINESS BRASS JOB FOUNDRY

	SUMMARY		
	ITEM	RATE	FEE
BASIC	13	5	65
CONTROL	2	5	10
TOTAL	15	X	75

Basic	Control	Item	DESCRIPTION – GENERAL USAGE NAME OF EQUIPMENT – SYSTEM – OR PROCESS (INCLUDE MANUFACTURER'S NAME AND MODEL NO.)		Type of Contaminant	Permit
✓		1	SHAKE-OUT AREA	# 722	DUST	
	✓	2	BAGHOUSE	# 34	"	
✓		2	CORE BAKE OVEN	# 260	FUMES	
✓		6	CRUCIBLE POTS	# 213	"	
✓		3	GRINDERS	# 653	DUST	
✓		1	SCREEN	# 577	"	
			FIGURE 2 – EQUIPMENT SUMMARY OF BRASS CASTING PROCESS			
13	2	15	TOTALS			

ENGINEER'S NAME JAMES JONES DATE 5-3 19 64 CHECKED BY John Doe

(USE BACK OF SHEET FOR FLOW DIAGRAM OR REMARKS) SHEET NO. _____

FIGURE 2.—*Equipment summary of brass casting process*

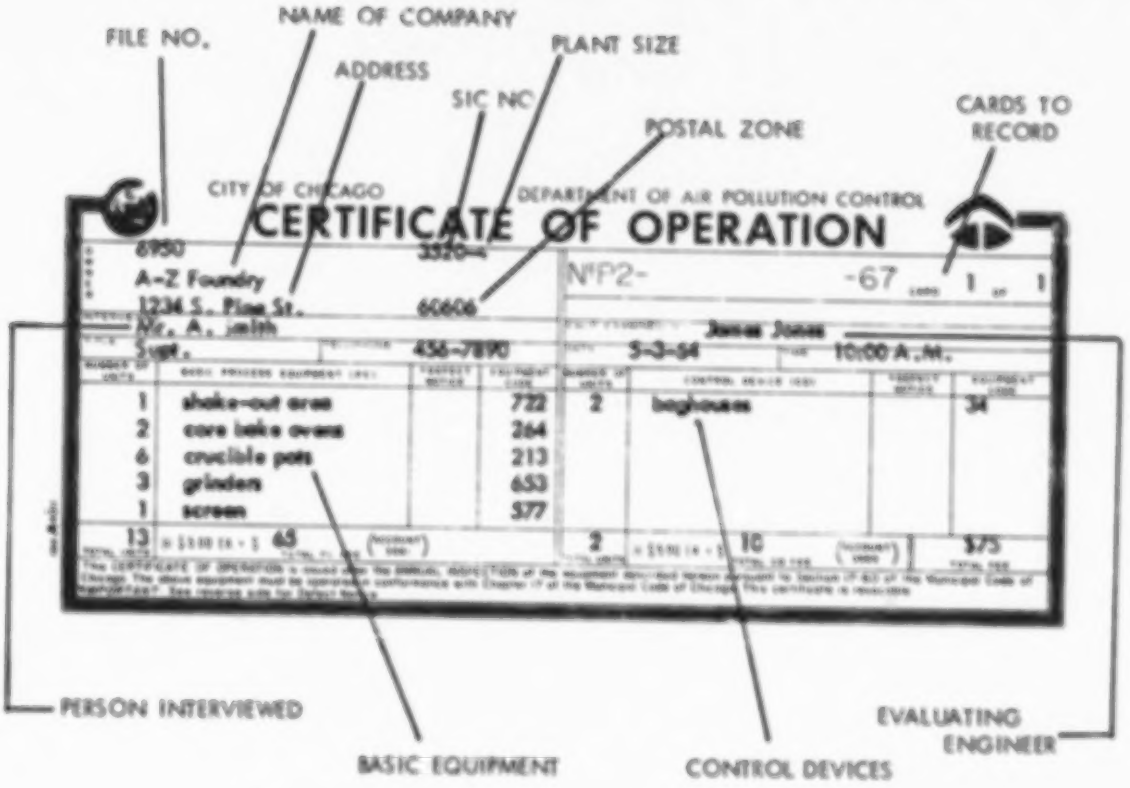

FIGURE 3.—*Inventory card illustrating equipment evaluated*

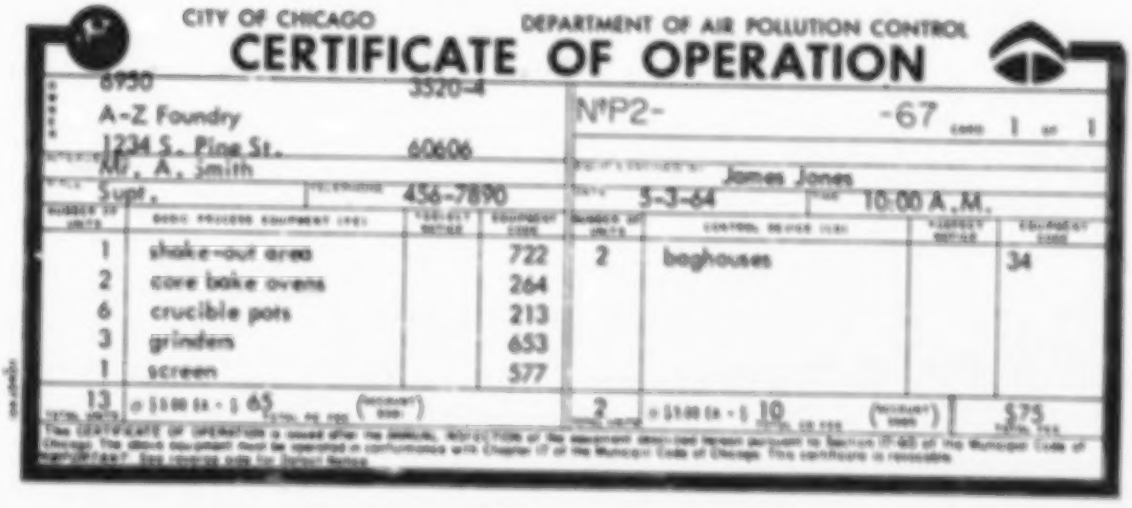

FIGURE 4.—*Certificate of operation—original card*

Part One

INDUSTRIAL ACTIVITIES CLASSIFIED BY THEIR STANDARD INDUSTRIAL CLASSIFICATION AND THE AIR POLLUTION SOURCES ASSOCIATED WITH THE ACTIVITY

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20 FOOD AND KINDRED PRODUCTS

SIC	DESCRIPTION	SOURCE
2011	Meat Packing Plants	*Pen areas, hide cellars, hair washers, dryers, bone crushing, catch basins.*
2013	Sausage and Other Prepared Meat Products	*Smokehouses, casing washing, cacth basins.*
2015	Poultry and Small Game Dressing and Packing, Wholesale	*Holding tanks, housekeeping, spray dryers.*
2031	Canned Foods	*Cooking processes.*
2035	Pickled Fruits and Vegetables, Etc.	*Seasonings, odors, cookers, etc.*
2041	Flour and Other Grain Mill Products	*Blending, mixing, material handling.*
2043	Cereal Preparations	*Blending areas.*
2051	Bread and Bakery Products	*Bake ovens, fryers.*
2071	Candy	*Corn popping machines, cookers, nut fryers and roasters.*
2072	Chocolate	*Cocoa bean cleaners, bean grinders, cookers, or ventilating systems.*
2083	Malt	*Conveying systems, cyclones, tripper.*
2087	Flavoring Extracts	*Stills, ventilating systems.*
2092	Soybean Oil Mills	*Toasters, conveying systems, cyclones, load and unload areas, dryers.*
2093	Vegetable Oil Mills	*Deodorizers, settling basins.*
2094	Grease and Tallow	*Cookers, hot wells.*
2095	Coffee	*Coffee roasters, stoners, coolers.*

22 TEXTILE MILL PRODUCTS

2231	Fabric Mills, Wool, Dyeing and Finishing	*Dryers, dyeing.*
2261	Dyeing and Finishing Cotton	*Dryers, dyeing, formaldehyde sometimes used as solvent.*
2291	Felt Goods	*Garnets, hair dryers, cyclones.*
2293	Paddings and Upholstering	*Pickers, housekeeping.*
2295	Coated Fabrics, Leather, Oilcloth, Etc.	*Coating machines and dryers.*

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23 APPAREL

SIC	DESCRIPTION	SOURCE
2392	Housefurnishings	*Pillow-blowing area, washer and dryer, woodworking, spray booth.*

24 LUMBER AND WOOD PRODUCTS (EXCEPT FURNITURE)

2421	Sawmills	*Sawing and sanding areas.*
2426	Flooring	*Sanding area, spray booth, millworking area.*
2431	Millwork	*Spray booth, woodworking area.*
2432	Veneer	*Woodworking area, dryers.*
2433	Prefabs	*Woodworking area.*
2441	Wooded Containers	*Trimming area, woodworking area.*
2445	Cooperage	*Spray booth.*
2499	Miscellaneous Wood Products	*Spray booth, drying area, sanding and cutting area.*

25 FURNITURE

2511	Wood, Household Furniture	*Woodworking area, spray booths.*
2512	Wood, Household, Furniture Upholstered	*Spray booth, woodworking area.*
2514	Metal Household Furniture	*Washer dryer, bake oven, spray booth.*
2515	Mattresses and Bed Springs	*Garnet area, bake oven.*
2521	Wood Office Furniture	*Spray booth, woodworking area.*
2522	Metal Office Furniture	*Spray booth, bake oven.*
2531	Public Building Furniture	*Spray booth, bake oven, washer dryer.*
2541	Wood Partitions	*Silk screen process, woodworking area, spray booth.*
2542	Metal Partitions	*Weld and grind area, bake oven, spray booth.*
2591	Venetian Blinds	*Spray booth, bake oven, wood cutting.*
2599	Furniture and Fixtures	*Spray booth, woodworking area.*

26 PAPER AND ALLIED PRODUCTS

SIC	DESCRIPTION	SOURCE
2641	Paper Coating and Glazing	*Tape perforator, rotogravure, solvent mix area, Hammermill, laminating and coating, coating and drying ink, letterpress.*
2642	Envelopes	*Dryers.*
2643	Bags	*Primer and dryer, solvent storage, asphalt roll coater, wax roll dip.*
2644	Wallpaper	*Unloading area, Hogger, mixing area, stripping tank, silkscreen.*
2645	Die Cut Paper, Cardboard	*Rotogravure press, trimming area, starchmix area, silkscreen, spray booth rubber-molding press.*
2649	Paperboard Products	*Laminator, cellulose acetate dip.*
2651	Folded Paperboard Boxes	*Press area, flexographic press, trimming.*
2652	Set-up Paperboard Boxes	*Woodworking, spray booth.*
2653	Corrugated Boxes	*Score and slitting area, cardboard cutting saw, scoring machine, die cutter area, trimming area, Hogger.*
2654	Food Containers	*Waxed cup processing area, cup forming area, cone forming area, paper cutter and print press.*
2661	Building Paper	*Spray booth.*

27 PRINTING

2711	Newspapers	*Crucible (lead), lead melting and casting area.*
2721	Periodicals	
2741	Miscellaneous Publishing	*Collator, spray booth, wood process, grind and cut area.*
2751	Commercial Printing	*Degreaser, spray booth, bake oven, coater machine, tubing oven, lithographic and color press.*
2752	Commercial Printing, Lithographic	*Silk screen, dryer, spray booth.*
2761	Business Forms Manufacturing	

SIC	DESCRIPTION	SOURCE
2771	Greeting Card Manufacturing	*"Glitter" drying oven, spray booth.*
2782	Blankbooks	*Vapor degreaser.*
2789	Bookbinding	*Bind, glue, stitch, trim machine, silkscreen, spray booth.*
2791	Typesetting	*Melt pot, lead crucible furnace, monotype caster area.*
2793	Photoengraving	*Chrome plating tank.*
2794	Electrotyping	*Lead crucible furnace, spray booth.*

MAJOR GROUP 28 CHEMICALS AND ALLIED PRODUCTS

2813	Industrial Gases	*Fumes from acid storage, filling areas.*
2815	Dye, Organic Pigments	*Sulfonates, animal oils.*
2816	Inorganic Pigments	*Lead acid reactors.*
2818	Industrial Organic Chemicals	*Solvent vapors from storage and mixing.*
2819	Industrial Inorganic Chemicals	*Mixing and loading areas.*
2821	Plastic and Synthetic Resins	*Mixing and loading areas.*
2831	Biological Products	*Mixing areas.*
2833	Medicinal Chemical	*Mixing.*
2834	Pharmaceutical Preparations	*Spray dryer, blenders, coating machines.*
2841	Soap and Detergent	*Spray dryers, acid storage, acidulation tanks, deodorizers.*
2842	Specialty Cleaning Detergents	*Hammermills, mix tanks, ammonia storage, cookers.*
2843	Surface Active Agents	*Blending, sulfonating tanks, spray dryer.*
2844	Perfumes, Cosmetics	*Dry blending.*
2851	Paint and Varnish	*Varnish cookers, phtholic anhydride odors, solvent storage, blending areas.*

29 PETROLEUM REFINING AND RELATED INDUSTRIES

SIC	DESCRIPTION	SOURCE
2951	Paving Mixtures and Blocks	*Truck loading and unloading area, sand and stone storage bin area, belt conveyer system, rotary dryers, bucket conveyers, pug mill, hot oil tester, pulverized limestone silo, classifying screen, vibrator, asphalt mixer, asphalt melter.*
2952	Asphalt Felts and Coatings	*Loading and unloading area, heated asphalt storage tank, asphalt saturator, asphalt dip area, dryer, mixer, saturant coater, tube heater, asphalt oxidizer, still, sand coater.*
2992	Lubricating Oils and Greases	*Spray booth, blending area, liquid filling area.*
2999	Products of Petroleum and Coal, Not Elsewhere Classified	*Loading and unloading area, kiln, quencher, conveyer system, bucket elevator, screen, crusher disintegrator, bagging machine.*

30 RUBBER AND MISCELLANEOUS PLASTIC PRODUCTS

3011	Tire Retreading	*Buffing, vulcanizing, spray booth.*
3069	Fabricated Rubber Products	*Mixing, vulcanizing, spray booth, vapor degreaser, grinding, buffing ovens (drying and curing) shirt blasting, molding, presses, chlorinated water rinse tank.*
3079	Miscellaneous Plastic Products	*Injection molding, machines, spray booth, paint and silk screen drying oven, chrome plating tanks, machining operations (turning belt sanders, grinders) vapor degreaser, crude finishing (tumbling), polishing and buffing laminating machines, scrap grinders, plastic pellet drying oven, mixers and blenders, plastic curing oven.*

31 LEATHER AND LEATHER PRODUCTS

3111	Leather Tanning and Finishing	*Hide house, buffing, spray booth, lacquer drying oven, flesh storage tank, settling basin.*
3121	Industrial Leather Belting and Packing	*Vapor degreaser, spray booth.*
3131	Boat and Shoe Cut Stock and Findings	*Buffing, grinding.*
3141	Footwear	*Buffing, spray booth.*
3142	House Slippers	*Trimming, cutting, spray booth, dryer.*
3161	Luggage	*Sanders, wood machining area, spray booth.*
3172	Personal Leather Goods	*Spray booth.*
3199	Leather Goods Not Elsewhere Classified	*Spray booth, drying ovens.*

32 STONE, CLAY AND OTHER GLASS PRODUCTS

SIC	DESCRIPTION	SOURCE
3229	Pressed and Blown Glass and Glassware Not Elsewhere Classified	*Spray booth, bake oven, grinders, mixing area, melting furnace, annealing furnace.*
3231	Glass Products, Made of Purchased Glass	*Sand blasting, tempering furnace, spray booth, drying oven, plastic curing oven.*
3241	Hydraulic Cement	*Blending, sand storage bins.*
3253	Ceramic Wall and Flooring Tile	*Mixing, bake oven, sawing.*
3255	Clay Refractories	*Blenders, hammermill, bagging machines, unloading area, storage bins and hoppers, drier.*
3271	Concrete Brick and Block	*Grinding, crusher, screening, conveyors, mixers, kilns, loading area.*
3272	Concrete Products Except Block and Brick	*Silo, mixing, paint spray, asphalt melt kettle, crusher.*
3273	Ready Mixed Concrete	*Silo, conveyors, bins, loading and unloading areas.*
3274	Lime	*Kilns, screening.*
3281	Cut Stone and Stone Products	*Shot blast buffing, polishing.*
3291	Abrasive Products	*Curing and bake ovens, mixing tanks.*
3292	Asbestos Products	*Mixing, hammermill, cutting, sanding, sanding grinding.*
3293	Steam and Other Packing and Pipe and Boiler Covering	*Degreaser, mixing, curing ovens, rubber processing area.*
3295	Minerals and Earths	*Screening, loading area, drier, hammermill, kiln, mixers, powder, processing, crushing, conveyor system.*
3297	Nonclay Refractories	*Mixing machines.*
3299	Nonmetallic Mineral Products Not Classified Elsewhere (Satuary, etc.)	*Spray booth, grinding, wood machining, dryers, excelsior picker.*

33 PRIMARY METAL INDUSTRIES

3312	Blast Furnaces, Steelworks, and Rolling Mills.	*Car dumper, stove, hopper, and bins. Belt conveyor, coal crusher, hammermill (coal), coke oven, coke quenching, oil and tar decanter, tar dehydrator, tar storage, ammonia still, ammonia absorber, vaporizer, ammonium sulfate dryer, naphthalene sump, ammonia sulfate crystallizer, flue dust tripper, hot metal transfer car, electric arc furnace, open hearth*

SIC	DESCRIPTION	SOURCE
Continued		
3312	Blast Furnaces, Steelworks, and Rolling Mills.	*furnace, heat treating furnace, scarfing, cooling tower, soaking pit, reheat furnace, blast furnace, ore carrier unloading, transfer car, screening, conveyorized sintering machine, sinter furnace, sinter breaker, sinter classifier, slag granulator, galvanizing furnace.*
3315	Chain Manufacturing	*Welding area.*
3316	Cold Rolled Sheet, Strip and Bars	*Acid tank, heat treat furnace, oil quench, shot blast.*
3317	Steel Pipe and Tubes	*Grinder, annealing furnace.*
3321	Gray Iron Foundries	*Cupolas, shakeout, sand and shot blasting, gringing, pouring, core bake oven, tumbling, sand mixing area, green sand shaking, sand drying oven.*
3322	Malleable Iron Foundries	*Cupola, reverberatory furnace, shake out, muller mixer grinding area, ball mills, shot blaster, sand blast, woodworking area.*
3323	Steel Foundries	*Burn out ovens, trichoroethylene tank, frinding area, hammermill, metal cutting area, electric induction, arc furnace, melting furnaces, shot blaster, shakeout area, spray booth, heat treat furnace, degreaser, preheat oven, core bake oven.*
3339	Primary Smelting and Refining of Nonferrous Metals, Not Elsewhere Classified.	*Crucible furnace.*
3341	Secondary Smelting, Refining, and Alloying of Nonferrous Metals and Alloys.	*Sweating furnace, reverberatory furnace, crushers, drying oven, melting pot, crucible furnaces, rotary dryer, blast furnace, rotary furnace, cupola, wire insulation incinerator.*
3351	Rolling, Drawing, and Extruding of Copper.	*Extrusion press with holding furnace.*
3356	Rolling, Drawing, and Extruding of Nonferrous Metals, Except Copper and Aluminum.	*Sweating furnaces, melting and alloying pots, and kettles rosin core formulating.*
3357	Drawing and Insulating of Nonferrous Wire.	*Annealing oven, varnish bake oven, drying oven, lacquer dip, drying tower.*
3361	Aluminum Castings	*Bake oven, grinding and belt sanding, reverberatory and crucible furnaces, melting pots, shakeout, pouring, sand mixing, die casting machines, wheelabrator, vapor degreaser, remelt furnace.*

33 PRIMARY METAL INDUSTRIES—Continued

SIC	DESCRIPTION	SOURCE
3362	Brass, Bronze, Copper, Copper Base Alloy, Castings.	*Core bake ovens, shake out, shot blasting, grinders, sawing, melting pots, crucibles, pouring, cut-off, tumbling, polishing area, induction furnace.*
3369	Nonferrous Castings, Not Elsewhere Classified.	*Woodworking area, shake out, shot and sandblast, vapor degreaser, grinding, polishing ball mill, curing oven, melting pot, diecasting machines, sanders, melting pots, spray booth, bake oven, reverberatory furnace, crucible, caustic washers and heat treating.*
3391	Iron and Steel Forgings	*Forging furnaces, oil quenching, shot blasting, gringing, pickeling, welding, soaking furnace.*
3392	Nonferrous Forgings	*Forging furnaces, heat treating furnaces, grinding areas, aluminum anodizing, vapor degreaser.*
3399	Primary Metal Industries Not Elsewhere Classified	*Furnaces, quench tanks, shot blaster, annealing furnace, salt pots, pickeling.*

34 FABRICATED METAL PRODUCTS, EXCEPT ORDNANCE, MACHINERY AND TRANSPORTATION EQUIPMENT

3411	Metal Cans	*Litho coating oven, roller coater, drying oven, soldering area.*
3423	Hand and Edge Tools	*Grinding area, quench tank, wheelabrator, heat treating furnace, ducted grinding area, charcoal oven, spray booth, bake oven, sand blasting, chrome plating tank.*
3425	Hand Saws	*Melting furnace, ore cast machine, degreaser, spray booth, bake ovens.*
3429	Hardware	*Die casting machine, wood working area, melt pot, polishing, buffing.*
3431	Enameled Iron	*Spray booth.*
3432	Plumbing Fixtures Fittings	*Spray booth, milling area, polishing and buffing area, chrome plating area.*
3433	Heating Equipment	*Spray booth, grinder area, bake oven, degreaser.*
3441	Fabricated Structural Steel	*Spray area, cement mixing area, grit blast.*

34 FABRICATED METAL PRODUCTS, EXCEPT ORDNANCE, MACHINERY AND TRANSPORTATION EQUIPMENT—Continued

SIC	DESCRIPTION	SOURCE
3442	Metal Doors	*Spray booth, degreaser, buffing, woodworking area, extruding machine, hardening oven, sand blast.*
3443	Plate Work	*Spray booth, vapor degreaser, welding area.*
3444	Sheet Metal Work	*Spray booth, bake oven.*
3449	Architectural Metal Work	*Dip tank, spray booth, polishing area, welding area, aluminum anodizing area.*
3451	Screw Machine Products	*Grinding, vapor degreaser, abrasive blast cabinet buffing area, spray booth, sanding area.*
3452	Bolts, Nuts, etc.	*Degreaser, forging furnace, muriatic acid bath, oxide salts bath, hardening furnace, wash-oven.*
3461	Metal Stampings	*Grinding, polishing, die casting, parts washing, spray booth. bake oven.*
3471	Electroplating	*Grinding, spray booth, degreaser, aluminum anodize tank, drying oven, alkali bath, polishing, buffing.*
3479	Coating and Engraving	*Spray booth, bake oven, grinding area, sand blasting area, washer, wheelabrator.*
3481	Wire Products	*Spray booth, metal saw, vapor degreaser, dip tank, curing oven, grind area, stress relief furnaces.*
3491	Barrels and Drums	*Spray booth, bake ovens, shot blast drum burning units, dryer, hot caustic bath, burn out oven, wheelabrator.*
3493	Steel Springs	*Heat treat furnace.*
3494	Valves	*Chrome tank, polish area, degreaser, spray booth, iridite process, cupola, grinding area, core bake oven, wheelabrator, vibrating screen, conveyor, brass furnace.*
3497	Metal Foil and Leaf	*Ingot furnace, anneal furnaces pickling tanks, induction furnace.*
3498	Fabricated Pipe	*Grinding area.*
3499	Fabricated Metal Products	*Spray booth, bake oven, degreaser, metal melting pot, mold making, pour and shakeout area, finishing area.*

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SIC	DESCRIPTION	SOURCE
3522	Farm Machinery	*Spray booth.*
3531	Construction Machinery	*Welding and burning area, paint spraying.*
3532	Mining Machinery	*Spray booth, grind area, woodworking area, bake oven, melting pots, sand blast, shot blast.*
3534	Elevators	*Spray booth.*
3535	Conveyors	*Spray booth, litho coating ovens, soldering area, degreasing tank.*
3537	Industrial Trucks	*Paint spray booth, curing oven.*
3541	Machine Tools, Metal Cutting Types	*Spray booth, grind area, finish area.*
3542	Machine Tools, Metal Forming Type	*Spray booth, bake oven, alzaking tank, tool grinding, welding.*
3544	Special Dies and Tools	*Grinding area, melting pots, die casting machine, plastic molding area.*
3545	Machine Tool Accessories	*Heat treating, cyanide pots, grinding area, forge oven, short peening area, paint spraying, buffing area, quench area.*
3548	Metalworking Machinery	*Grind area, buffing lathe area, spray booth, bake oven, tumble blast, carburizer furnace.*
3551	Food Products Machinery	*Polishing area, weld area, spray booth, shot blast, acid tank, woodworking area.*
3553	Woodworking Machinery	*Grinding, vapor blaster.*
3555	Printing Trades	*Chrome plating, molding area, curing oven, grinding, polishing.*
3559	Special Industry Machinery	*Cutting, degreaser, spray booth, grinding.*
3561	Pumps	*Spray booth, melt pot.*
3564	Blower	*Weld, grind, sand blast, dip tank, melt furnace, spray booth, bake oven, burn-out oven.*
3565	Industrial Patterns	*Crucible furnace, grinding, bake oven, woodwork area.*
3566	Mechanical Power Transmission Equipment.	*Die casting area, spray booth, cyanide furnace, oil quench tank, heat treating furnace, tool grinding.*

35 MACHINERY, EXCEPT ELECTRICAL—Continued

SIC	DESCRIPTION	SOURCE
3567	Furnace and Ovens	*Degreaser, cutting area, sand blast room, rock crusher.*
3569	General Machinery and Equipment	*Rubber grind, metal grind spray booth.*
3572	Typewriters	*Woodworking, spray booth.*
3576	Scales and Balances	*Spray booth, bake oven.*
3579	Office Machines	*Heat treat furnace, spray booth, dryer, finish area, bake oven.*
3581	Automatic Merchandising Machines	*Buffing area, spray booth, bake oven, degreaser.*
3582	Commercial Laundry	*Spray booth, grind buffing area, degreaser.*
3584	Vacuum Cleaners	*Degrease, polish and grind, spray booth, bake oven.*
3585	Refrigerators	*Spray booth, pickling tank, finishing area, woodworking area, sandblast, metalize booth.*
3586	Measuring and Dispensing Pumps	*Extraction kettles.*
3589	Service Industry Machines	*Spray booth, polishing and buffing, chrome plating tank, heat treating oven.*
3591	Machine Shops	*Grinding area, dip tank, flame-cutting area.*
3599	Machinery and Parts	*Polishing area.*

36 ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES

3611	Electric Measuring Instruments and Test Equipment	*Soldering, silk screening, diesel engine testing area, vapor degreaser.*
3612	Power, Distribution, and Specialty Transformers	*Bake ovens, spray booth, sandblaster, pitch holding tank, phosphate washer, dryer, annealing furnace.*
3613	Switchgear and Switchboard Apparatus	*Spray booth, grinding, polishing, vapor degreaser, sandblast, welding, soldering area, galvanizing tank, H.T. furnace, quench tank.*
3619	Electric Transmission and Distribution Equipment Not Elsewhere Classified	*Forging furnaces, heat treat furnaces all with quench tanks, annealing furnace, zinc galvanizing tank, degreaser, shot blaster.*
3621	Motors and Generators	*Spray booth, bake oven, plastic molding area, grinder, burn-out oven.*

36 ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES—Continued

SIC	DESCRIPTION	SOURCE
3622	Industrial Controls	*Bake oven, spray booth, vapor degreaser, plastic machining, grinding, chrome plating.*
3623	Welding Apparatus	*Bake oven.*
3629	Electrical and Industrial Apparatus	*Spray booth, bake oven, sandblaster.*
3632	Household Refrigerators and Home Freezers	*Cleaning booth, paint spray booth.*
3634	Electric Housewares and Fans	*Vapor degreaser, sandblaster, buffing, chrome plating.*
3636	Sewing Machines	*Grinding, polishing, buffing, paint spray, paint bake oven, heat treating and oil quench.*
3639	Household Appliances Not Elsewhere Classified	*Spray booth, welding, shotblasting, vapor degreaser, bake ovens.*
3641	Electric Lamps	*Vapor degreaser, spray booth, bake oven.*
3642	Lighting Fixtures	*Spray booth, polishing and buffing, chrome plating, grinding, bake oven, die casting machines, vapor degreaser, washer, dryer.*
3643	Current Carrying Wiring Devices	*Carbon sawing, grinding bake oven.*
3644	Noncurrent Carrying Wiring Devices	*Vapor degreaser, grinder.*
3651	Radio and Television Receiving Sets	*Paint dip, spray booths, paint bake oven, dryer, grinding, vapor degreaser, chrome plating, polishing.*
3661	Telephone and Telegraph Apparatus	*Curing oven, spray booths.*
3662	Radio and Television Transmitting, Signaling, and Detection Equipment and Apparatus	*Spray booth, bake oven, welding, vapor degreaser, grinding, buffing, sanding.*
3672	Cathode Ray Picture Tubes	*Bake oven, spray booth, TV tube annealing, ammonium bifluoride washer.*
3679	Electronic Components and Accessories Not Elsewhere Classified	*Grinding, machining, spray booth, bake oven, asphalt dip, vapor degreaser.*
3691	Storage Batteries	*Bake oven, spray booth, sulfuric acid storage tank, crucible furnace, tummel dryer, remelt furnace, die castings.*

36 ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES—Continued

SIC	DESCRIPTION	SOURCE
3693	Radiographic X-Ray, Fluoroscopic X-Ray, Therapeutic X-Ray, and Other X-Ray Apparatus and Tubes	*Belt-sander, polishing, spray booth, bake oven.*
3694	Electrical Equipment for Internal Combustion Engines	*Spray booths, vapor degreaser.*

37 TRANSPORTATION EQUIPMENT

3711	Motor Vehicles	*Spray booth, bake ovens, dry off ovens, welding area, solder area, grind area, sanding booth.*
3713	Truck and Bus Bodies	*Spray booth.*
3714	Motor Vehicle Parts and Accessories	*Spray booth, bake ovens, chrome tank, polish and buff area, vapor degreaser, burn-off oven, finishing bonding oven, debonding oven, curing oven, washer oven, heat treat furnace, and oil quench, grind and cut area.*
3715	Truck Trailers	*Spray booth.*
3729	Aircraft Parts and Auxiliary Equipment Not Elsewhere Classified	*Grind and buff area.*
3731	Ship Building and Repairing	*Forge furnace, babbit pot, joint blasting, spray painting.*
3742	Railroad and Street Cars	*Annealing furnace, sandblasting, spray booth, heat treat furnace, forging furnace, grinding area, bake ovens, washer-oven, dryer.*
3751	Motorcycles, Bicycles, and Parts	*Spray booth, wheelabrator, bake oven, washer oven. degreaser, polish and grind aren, buff area, chrome tanks, annealing oven.*

38 PROFESSIONAL, SCIENTIFIC, AND CONTROLLING INSTRUMENTS—PHOTOGRAPHIC AND OPTICAL GOODS—WATCHES AND CLOCKS

3811	Engineering, Laboratory, and Scientific Research Instruments and Associated Equipment	*Spray booth, bake oven, degreaser, grinding area, polishing and buffing, woodworking area.*
3821	Mechanical Measuring and Controlling Instruments	*Spray booth, grinding area, heat treat w/oil quench, degreaser, bake oven.*
3831	Optical Instruments and Lenses	*Spray booth, vapor degreaser, chrome plating tank, black oxide tank, paint bake oven.*

38 PROFESSIONAL, SCIENTIFIC, AND CONTROLLING INSTRUMENTS—PHOTOGRAPHIC AND OPTICAL GOODS—WATCHES AND CLOCKS—Continued

SIC	DESCRIPTION	SOURCE
3841	Surgical and Medical Instruments and Apparatus	*Spray booth.*
3842	Orthopedic, Prosthetic and Surgical Appliances and Supplies	*Sanding area, cut and trim area, material wash process area, gut wash process area, gut drying area.*
3843	Dental Equipment and Supplies	*Mixer grinder, calcine furnace.*
3861	Photographic Equipment and Supplies	*Spray booth, sand blaster, soldering area, degreaser, bake oven, chrome plate bank, buffing area.*
3871	Watches, Clocks, and Parts Except Watchcases	*Degreaser, spray booth, grinding area, heat treat w/oil quench, washer drying oven, polishing and buffing area, chrome plating area.*

39 MISCELLANEOUS MANUFACTURING INDUSTRIES

3914	Silverware and Plated Ware	*Woodworking, grinding, buffing and polishing, degreaser, spray booth, bake oven.*
3931	Musical Instruments and Parts	*Vapor degreaser, buffing, polishing, chrome plating, spray booth, woodworking, sewing area, sanding area, hogger, bake oven, grinding area, soldering area.*
3941	Games and Toys, Except Dolls and Children's Vehicles	*Spray booth, curing oven.*
3943	Children's Vehicles Except Bicycles	*Spray booth, bake oven.*
3949	Sporting and Athletic Goods	*Spray booth, wood machining, grinding, polishing and buffing, vapor degreaser, bake oven, material processing area, curing oven, dryer, sanding, rubber mill and mixing area.*
3952	Lead Pencils, Crayons and Artists Materials	*Underground solvent storage, paint mixing area, drum and can filling area, melting area.*
3953	Marking Devices	*Polishing, spray booth, ink blending area, chrome plating grinder, buffing area, sandblasting, heat treating and oil quenching, etching area, bake oven.*
3955	Carbon Paper and Inked Ribbons	*Rubber roller trimming.*
3963	Buttons	*Annealing furnace, spray booth, cure and bake ovens, degreaser, plating area, bright dip tank, lacquer tumbler area.*

SIC	DESCRIPTION	SOURCE
3964	Needles, Pins, Hooks, and Eyes and Similar Notions	*Buffing, spray booth, bake oven, grinding, vapor degreaser, acid area, tumbling, varnish coaters, heat treat furnace.*
3981	Brooms and Brushes	*Mixing, sanding of brush tips, woodworking area, spray booth, drying area, trimming area, sulphurizing area, paint dip.*
3983	Matches	*Mixing area, varnish machine area.*
3987	Lamp Shades	*Spray booths, dip tank, silk screen area.*
3988	Mortician's Goods (Caskets)	*Spray booth, bake oven, vapor degreaser, buffing area, melting area, milling area, sanding area.*
3993	Signs and Advertising Displays	*Spray booth, spray area, woodwork, silk screen, grinding, bake oven, wood-metal buff, degreaser, forming oven, drying oven.*
3999	Manufacturing Industries, Not Elsewhere Classified	*Hair dryer, spray booth, hog hair, storage, cooking, grinding, torch cutting, polishing, bake oven, vapor degreaser, tunnel dryer, hide area, glue coating area, dry powder blending machine.*

Part II is presented in two sections. The first section, Chart 1, consists of a list of control devices which may be selectively installed on basic equipment found in Chart 2. The second section, Chart 2, lists basic equipment or basic process, which by their activity in producing useful products, have a potential to emit pollutants into the atmosphere.

The Basic List can be made more useful in the field by obtaining additional information such as the hours/day the basic equipment or process is used. Where the activity is cyclical, the percentage increase or decrease for corresponding months should be obtained.

Part Two

CODE NUMBERS FOR BASIC EQUIPMENT INCLUDING "EMISSION FACTOR" INFORMATION

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CHART 1

CODE NUMBERS FOR CONTROL DEVICES

The control devices listed herein by groups may be selectively applied to the basic equipment in Chart 2 to effectively reduce emissions of pollutants into the atmosphere. (May 1, 1967).

Vapor Control Equipment

00 Group—CONTROL BY COMBUSTION

01 catalytic combustion
02 furnace combustion
03 boiler firebox
04 steam injection flare
05 venturi flare
06 direct flame combustion (afterburner)

10 Group—ADSORBERS

10 activated carbon—nonregenerative
11 activated carbon—regenerative
12 silica gel—nonregenerative
13 silica gel—regenerative
14 lithium chloride
15 activated alumina
16 activated bauxite

20 Group—ABSORBERS

20 sieve plate tower
21 bubble-cap tower
22 packed tower

Particulate Matter—Liquid Mist Control Equipment

30 Group—DRY SEPARATORS AND FILTERS

30 simple cyclones
31 high efficiency cyclones
32 settling chamber
33 simple filters
34 baghouse (shaking)
35 baghouse (reverse jet)
36 dry collector (dynamic)

40 Group—WET COLLECTORS

40 spray chamber—no baffles
41 spray chamber—with baffles
42 wet cyclones—rotoclone
43 wet dynamic precipitator
44 venturi scrubber
45 spray tower (not absorption—scrubbers)
46 packed tower (not absorption—scrubbers)
47 condensors (tube and shell); air
48 barometric condensor with hot wells

50 Group—ELECTRICAL PRECIPITATORS

50 single stage
51 double stage
52 precipitron

60 Group

60 Counteractant

70 Group—SPECIAL

71 Jet exhausters (air dilution)
72 Mist eliminators

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CHART 2

BASIC EQUIPMENT (BASIC PROCESSES)

I. FLUID FLOW—relative motion between solids and fluids; movement of fluids; transportation of fluids through confined areas or exhaust systems

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
101	SPRAY BOOTHS	Identify materials sprayed and quantities; enamel, lacquer, glass frit or other, (a) gal./day, gal./year, type of control.
102	SILK SCREENING PROCESS	*Include air dryer*—enamel, lacquer, ink, epoxy inks, (a) gal./day, (b) gal./year, type of control.
103	PRINTING PRESSES AND ROTOGRAVURE	Printing ink; (a) gal./day, (b) gal./year, type of control.
104	FLOWCOATER	Identify material flowed; varnish, lacquer, enamel; (a) gal./day, (b) gal./year, type of control.
105	PAINT DIP	Identify material in tanks; varnish, lacquer, enamel; (a) gal./day, (b) gal./year, type of control.
106	ASPHALT DIP	Asphalt; (a) gal./day, (b) gal./year, type of control.
107	COAL TAR DIP	*Same as 106.*
108	DYE DIP	Identify dye and solvents; (a) gal./day, (b) gal./year (do not count vegetable dye), type of control.
109	HOT OIL DIP	Gal./year, type of control.
110	PLASTIC DIP	Identify plastics and solvents; (a) gal./day, (b) gal./year, type of control.
111		
112	OTHER DIP	Identify materials in dip; gal./year, type of control.
113	FINISHING PROCESSES OR AREAS	Identify materials used in finishing; gal./year, type of control.
114	SANDBLASTING	Amount of makeup sand; tons/year, CFM exhausted, type of control.

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
115		
116		
117	SPECIAL PRESSES	Identify material coated in presses (lacquer and others); (a) gal./day, (b) gal./year, type of control.
118	PICKLING TANK	Identify material in tank (H_2SO_4 or other); gal./year, type of contrel.
119	ALUMINUM ANODIZING TANKS (BRITE'S PROCESS)	Identify material (H_2SO_4, chromic acid); gal./year, type of control.
120	ZINC PLATING TANK	No charge.
121	CHROME PLATING TANK	Identify percentage of strength of the chromic acid solution, gal./year, amount of chrome salt used, lb./year, type of control.
122	OTHER PLATING AREA (ACID TANKS)	Identify percentage of strength of and count only HNO_3, H_2SO_4 and chromic acids; gal./year, type of control.
123	SPRAY AREA	Identify coating sprayed; gal./year, type of control.
124	POURING AREA	Identify material poured; lbs./year or gal./year, type of control.
125	OTHER COATERS	Identify coatings; gal./year, type of control.
126	WASHERS (CAUSTIC, ETC.)	Count only for paint stripping (caustic soda), makeup; gal./year, type of control.
127		
128	FUMIGATOR	Identify type of fumigant; lbs./year or gal./year, type of control.

II. HEAT TRANSFER—a method of exchanging heat; the operation to raise or lower the temperature to accomplish reactions

201	WIRE INSULATION INCINERATOR	Tons of wire burned; (a) per day, (b) per year, type of control.
202	FILM BURNER INCINERATOR	Identify type and amount of material burned; (a) per/day, (b) per/year, type of control.

EQUIP-MENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
203	AUTOMOBILE BODY INCINERATOR	Identify type of operation; whole car burned or part car burned; (a) cars burned/day, (b) cars burned/year, type of control.
204	BARREL INCINERATOR	Identify material burned; (a) lbs./day, (b) lbs./year, type of control.
205	BRAKE SHOE INCINERATOR	Number of brake shoes burned; (a) lbs./day, (b) lbs./year, type of control.
206	OTHER INCINERATOR	Identify material burned; (a) lbs./day, (b) lbs./year, type of control.
207	SINGLE CHAMBER	*Same as 206.*
208	SINGLE CHAMBER WITH AUXILIARY FUEL	*Same as 206.*
209	MULTIPLE CHAMBER	*Same as 206.*
210	MULTIPLE CHAMBER WITH AUXILIARY FUEL	*Same as 206.*
211	FLUE FED, SINGLE CHAMBER	*Same as 206.*
212	FLUE FED, SINGLE CHAMBER AUXILIARY FUEL	*Same as 206.*
213	FLUE FED, MULTIPLE CHAMBER	*Same as 206.*
214	FLUE FED, MULTIPLE CHAMBER WITH AUXILIARY FUEL	*Same as 206.*
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218	CHEMICAL FURNACE	Identify material oxidized in furnace; (a) lbs./day, (b) lbs./year, type of control.
219	VAPORIZING FURNACES	Identify material vaporized in furnace; (a) lbs./day, (b) lbs./year, type of control.
220	HEAT TREATING FURNACES (WITH QUENCH TANKS)	Identify atmosphere, if any, cubic feet of atmosphere gas used; (a) CF/day, (b) CF/year, quench oil gal./year, type of control.

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
*221	HEAT TREATING FURNACES (DRAW FURNACE)	Identify atmosphere if any and cubic feet of atmosphere gas/year, type of control.
*222	HEAT TREATING FURNACES (MUFFLE FURNACE)	Identify atmosphere if any and cubic feet of atmosphere gas/year, type of control.
*223	HEAT TREATING FURNACES (ANNEALING FURNACES)	Identify atmosphere if any and cubic feet of atmosphere gas/year, type of control.
*224	FORGING FURNACES	Identify fuel in furnace; record production tons/year, type of control.
*225	GLASS MELTING FURNACE	Type of flux used if any; lbs./year, type of control.
226	SINTERING MACHINES AND BELTS	Machine capacity; (a) lbs./day, (b) lbs./year, and CFM of exhaust, type of control.
227	HOT AIR STOVES (OR BLOWERS)	Capacity of stoves; BTU/hr., fuel burned, tons/hour or cubic feet of gas/hour, and CFM from blowers, type of control.
228	SOAKING PITS	Tons of ingots in soaking pit area, type of control.
229	LIME KILNS	Raw material ($CaCO_3$ and others); (a) tons/day, (b) tons/year, type of control.
230	CEMENT KILNS	Identify constituents in kiln (limestone, sand, gravel); tons/day, tons/year, type of control.
231	OTHER KILNS	Identify constituents in kiln; tons of each constituent; (a) per day, (b) per year, type of control.
232	CO_2 GENERATOR	Identify the fuel in the waste heat boiler (probably No. 6 fuel oil); (a) gal./day, (b) gal./year, type of control.
233	LAMINATOR	Identify process; production lbs./day/ adhesive lbs./day, type of control.
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* If charge is on BTU only, no quantities for emissions are required.

EQUIP-MENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
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258	WELDING AREA	Note: This process may well not constitute air pollution, if fumes are excessive, record welding rod; (a) lbs/day, (b) lbs./year, type of control.

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
259	DIE CASTING MACHINE	Identify type of castings (Al./Zn); record (a) castings produced, tons per year, (b) type and amount of flux, lbs./year, (c) type and amount of parting agent: (1) die release agent, gal./year, (2) No. 140 solvent, gal./year. Note: Parting agent is die release agent plus solvent; usual ratio is 15:1 ——— 15 parts solvent to one part release agent.
260	FORMING AND MOULDING MACHINE	Capacity of machine; (a) lbs./day, (b) lbs./year, type of control.
261	BURNER TABLE	Identify material to be burned; (a) lbs./day, (b) lbs./year, type of control.
262	HAIR BURNER	Carcasses singed (burn-off hair); (a) number/day, (b) number/year, type of control.
263	COKE OVEN	Capacity of ovens; tons/day, CFM exhausted, type of control.
264	CORE BAKE OVEN	Core oil; (a) gal./day, (b) gal./year, type of control.
265	PAINT BAKE OVEN	Enamel, identify other paints baked; (a) gal./day, (b) gal./year, type of control.
266	OTHER FINISH BAKE OVEN	Identify coating; (a) gal./day, (b) gal./year, type of control.
267	BRAKE LINING BINDING OVEN	Identify adhesive used; (a) gal./day, (b) gal./year, type of control.
268	LITHOGRAPHIC PRESS OVEN (EX: OFFEN OVEN)	Identify the following: Inks, organic coatings, solvent sealers; (a) gal./day, (b) gal./year, type of control.
269	CURING OVENS (EX: PLASTIC, WOOD, OTHER MATERIALS)	Identify solvents in curing process; (a) gal./day, (b) gal./year, type of control.
270	VULCANIZING OVENS	Material vulcanized; (a) lbs./day, (b) lbs./year, type of control.
271	EDIBLE PRODUCTS BAKE OVEN	Odor survey, type of control.
272	WASHER-OVEN COMBINATION	Identify solution in washer and amount of makeup; lbs./year, type of control.
273	"OTHER" OVENS	Identify material in ovens, capacity; (a) lbs./hr., (b) lbs./year, type of control.

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
274	RENDERING COOKERS	Capacity of cooker; (a) lbs. per batch, (b) batches/day, type of control.
275	COFFEE ROASTERS	Green beans roasted; (a) lbs./day, (b) lbs./year, type of control.
276	NUT ROASTERS	Green nuts roasted; (a) lbs./day, (b) lbs./year, type of control.
277	OTHER ROASTERS	Identify material roasted; lbs./day, type of control.
278	SMOKEHOUSES	Identify material smoked; (a) lbs./day, (b) lbs./year, sawdust burned lb./day, type of control.
279	TOASTERS	Identify material toasted; lbs./day, type of control.
280	FRYERS	Identify material fried; amount of oil used; (a) gal./day, (b) gal./year, type of control.
281	CORN POPPERS	Amount of corn popped; lbs./year, amount of oil gal./day, type of control.
282	AUTOCLAVES AND SCALDING EQUIPMENT	Identifying material being steam cleaned, oil contaminents, frequency of use/day/week, type of control.
283	MELTERS	Identify material melted; (a) lbs./day, (b) lbs./year, type of control.
284	STEAM CONDITIONERS	Identify material removed from steam; lbs./year, type of control.
285	CHEMICAL OXIDIZERS (EX: ASPHALT BLOWERS)	Identify material, record CFM, type of control.
286	QUENCH AREAS	Identify material of quench (usually oil tank) makeup oil added; gal./year, type of control.
287	REACTORS (ALL TYPES)	Identify material in reactor; record times/year reactor is opened, change product etc., type of control.
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EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
290	VARNISH COOKER	Amount of varnish cooked; lbs. or gal./day, type of control.
291	STEAM CONDITIONERS	Identify process, what is added or removed from steam; lbs./year, type of control.
292	OXIDIZERS (SUCH AS ASPHALT BLOWERS)	Identify material being oxidized; (a) lbs./hour, (b) lbs./day, (c) lbs./year, record CFM through blowers, type of control.
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III. EVAPORATION—removing a *liquid* from a *solid* by boiling; by changing a liquid into a vapor

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301	HORIZONTAL TUBE EVAPORATORS	Identify material in evaporator; (a) lbs./hour, (b) lbs./year, type of control.
302	VERTICAL TUBE EVAPORATORS	Identify material in evaporator; (a) lbs./hour, (b) lbs./year, type of control.
303	FORCED CIRCULATION EVAPORATORS	Identify material in evaporators; (a) lbs./hour, (b) lbs./year, type of control.
304	LONG-TUBE EVAPORATORS	Identify material being evaporated; lbs./hour, type of control.
305	DOUBLE-EFFECT EVAPORATORS	*Same as 304.*
306	FLASH EVAPORATORS	*Same as 304.*
307	VACUUM EVAPORATORS	*Same as 304.*

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
308	TRIPLE-EFFECT EVAPORATORS	*Same as 304.*
309	BATCH EVAPORATORS	Identify material being evaporated; (a) lbs./batch, (b) batches/day, type of control.
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IV. HUMIDIFICATION AND DEHUMIDIFICATION—The *evaporation* of water into the air for the purpose of increasing the air humidity; the *condensing* of water vapor for the purpose of decreasing the air humidity

325	AERATOR-TYPE COOLING TOWER	Capacity of tower; GPM and CFM; type of pollutant, type of control.
326	SPRAY PONDS	Identify material in pond; pond size ..... sq. ft., indoor or outdoor location, GPM of spray, type of control.

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
327	COOLING PONDS	Identify material in pond; pond size ..... sq. ft., indoor or outdoor location, GPM into pond, type of control.
328	AIR CONDITIONING SYSTEM	Identify pollutant exhausted; record CFM.
329	CASCADE COOLER	Identify material in cooler; lbs./hr. or CFM.
330	AIR COOLER	Identify pollutant in air; CFM.
331	EXHAUST AND FAN SYSTEMS (VENTILATING SYSTEMS)	Identify pollutant in air; CFM exhausted.
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EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
V. GAS ABSORPTION—Operation where a desired vapor is transferred to the liquid; *stripping* is where the desired liquid is transferred to the vapor		
350	PACKED TOWER OPERATION	Identify pollutant gas and composition of wash; gas CFM, wash GPM.
351	WETTED WALL TOWER OPERATION	Identify pollutant gas and composition of wash; gas CFM, wash GPM.
352	STRIPPING TOWER	Identify absorbent and pollutant and respective GPM and CFM, type of control.
353	DEODORIZER	Identify material absorbing odors; record CFM and GPM, type of control.
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EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
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VI. SOLVENT EXTRACTION—Separating two components by dissolving one in a suitable solvent or a third component

375	DEGREASERS	Identify solvent in degreaser; makeup solvent, gal./year, type of control.
376	PERCOLATING STILLS	Identify solution and pollutant in still; capacity of still; (a) gal./hr., (b) gal./year, type of control.
377	LEACHING TOWER OR PROCESS	Identify; (a) solid to be leached, (b) solvent (s) used; record gal./yr. of solvent used, type of control.
378	STRIPPING TANKS OR PROCESS	Identify stripping solution and material strippped (paint etc.); makeup solution gal./year, type of control.
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EQUIP-MENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
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VII. ABSORPTION—Operation where a desired fluid is removed from a mixture by adsorbing the fluid on the surface of the solid

400	CHROMATOGRAPHIC ADSORPTION TOWER	
401	HYPERSORPTION TOWER UNIT	
402	GAS DEHYDRATION PROCESS	
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EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
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VIII. DISTILLATION AND SUBLIMATION—Separation of two liquid phases by boiling one into a vapor phase; separation of two components by vaporizing one of them from a solid directly to a gas

425	DISTILLING TANKS OR TOWERS	Identify raw material; record gal./day and concentration of pollutants in mixture (example: Hexane+Oil mixture, what is concentration of pollutant Hexane to be removed (distilled) from mixture, type of control.)
426	RECTIFYING TANKS OR TOWERS	*Same as 425.*
427	CONDENSOR (DISTILLATION—NOT CONTROL EQUIPMENT	*Same as 425.*
428	AIR CONDENSOR (NOT CONTROL EQUIPMENT)	*Same as 425.*
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EQUIP-MENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
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IX. DRYERS—Separating water from a component by vaporizing the water.

450	TRAY—DIRECT, CONTINUOUS	Identify material to be dryed; record dryer capacity lbs./hour, record CFM of air movement through dryer, type of control.
451	SHEET	*Same as 450.*
452	ROTARY	*Same as 450.*
453	SPRAY	Identify material to be dryed; record lbs./hour or gal./hour sprayed, type of control.
454	TUNNEL	*Same as 450.*
455	PNEUMATIC CONVEYING	Identify material to be conveyed; capacity of conveyor lb./hour, record CFM, type of control.
456	THROUGH—CIRCULATION—DIRECT—CONTINUOUS	*Same as 450.*

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
457	THROUGH—CIRCULATION—BATCH—DIRECT	*Same as 450.*
458	TRAY AND COMPARTMENTS—BATCH	*Same as 450.*
459	CYLINDER—INDIRECT, CONTINUOUS	*Same as 450.*
460	DRUM DRYER	*Same as 450.*
461	SCREW CONVEYOR DRYER	Identify material conveyed; capacity of conveyor lb./hour, record CFM of air movement through dryer, type of control.
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464	SPECIAL DRYER	*Same as 450.*
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466	FREEZE DRYER	*Same as 450.*
467	VACUUM ROTARY	*Same as 450.*
468	VACUUM TRAY	*Same as 450.*
469	DIELECTRIC	*Same as 450.*
470	DRYING AREA (AT AMBIENT TEMPERATURE)	Identify material to be dryed; record CFM of exhaust air at atmosphere, type of control.
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EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA

X. MIXING—An operation to promote ultimate contact between two fluids by producing irregular disturbances or turbulent motion within the fluids by mechanical devices acting on the fluids

475	AGITATORS	Identify material mixed; capacity of agitator lbs./day, type of vent, CFM exhausted, type of control.
476	PADDLERS	*Same as 475.*
477	BLENDERS	*Same as 475.*
478	HOMOGENIZERS	Identify material homogenized; record capacity gal./day, type of vent, CFM exhausted, type of controls.
479	COLLOID MILLS	Identify additives for mixing; lbs./day, type of vent, CFM exhausted, type of control.
480	MIXING JETS	Identify constituents mixed; record quantity mixed, gal./day, type of vent, CFM exhausted, type of control.
481	DIFFUSERS	*Same as 480.*
482	TURBINE PUMPING (FOR MIXING)	*Same as 480.*
483	BAFFLE MIXER	*Same as 480.*
484	KNEADERS	*Same as 480.*
485	PUG MILLS (FOR MIXING)	*Same as 480.*
486	CALENDERING MILLS	Identify materials mixed; record quantity calendered, lbs./day, type of vent, CFM exhausted, type of control.
487	MULLERS	Identify material mixed; record quantity mulled, lbs./day, type of vent, CFM exhausted, type of control.
488	MIXING AREA	Identify material to be mixed; record quantity lbs./day, type of vent, CFM exhausted, type of control.
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EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
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XI. CLASSIFICATION—Separation of materials into two or more fractions depending upon their rates of flow through fluids; when the different rates of flow are used to separate materials of the same density according to their sizes and shapes the operation is sometimes referred to as *sizing;* when material of the same equivalent size are separated according to their densities, the operation can be called *sorting*.

500	SPITZHASTEN CLASSIFIERS	Identify the operation; specify the material sorted (separated), quantity of separation (*lbs./day, lbs./year*). If the operation is exhausted, specify the CFM exhausted into the atmosphere.
501	ELUTRIATION EQUIPMENT (FOR GRAIN SIZE BELOW THE FINEST SCREEN SIZE)	*Same as 500.*
502	FREE SETTLING GLASS	*Same as 500.*
503	DOUBLE CONE (*GAYCO PNEUMATIC*) CLASSIFIERS	*Same as 500.*
504	RAKE CLASSIFICATION (*CLASSIFIERS*)	*Same as 500.*
505	BOWL CLASSIFIERS	*Same as 500.*
506	CROSS FLOW CLASSIFIERS	*Same as 500.*
507	COUNTER CURRENT CLASSIFIERS	*Same as 500.*

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
508	SPIRAL VANE CLASSIFIERS	*Same as 500.*
509	JUGGERS	*Same as 500.*
510	TABLERS OR PANNERS	*Same as 500.*
511	ELECTROSTATIC CLASSIFIERS	*Same as 500.*
512	FLOTATION CELLS	*Same as 500.*
513	GRAIN GRADERS	*Same as 500.*
514	PICKERS	*Same as 500.*
515	COMBERS	*Same as 500.*
516	SORTERS	*Same as 500.*
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XII. SEDIMENTATION AND DECANTATION Separation of suspension into a clear fluid and a sludge

525	THICKNERS	Identify materials separated; (a) lbs./day, (b) lbs./year, amount of precipitate lbs./year CFM exhausted, type of control.
526	BATCH SETTLING TANKS (BASIC EQUIPMENT ONLY)	Identify material in tanks; record sediment lbs./year; size of tank_____ sq. ft.; indoor or outdoor location, type of control.
527	CATCH BASINS	Identify material in basin; size of basin (sq. ft.) clean out frequency, indoor or outdoor location, type of control.

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
528	DECANTERS	*Same as 525.*
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XIII. FILTRATION—Operation in which a mixture of fluid and particles of solids are separated by a filter medium which permits the flow of fluid but retains the particles of solids

550	GRAVITY FILTERS (BASIC EQUIPMENT)	Identify material being filtered; amount collected; (a) lbs./day, (b) lbs./year, CFM exhausted, type of control.

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
551	PLATE AND FRAME FILTERS	*Same as 550.*
552	BATCH LEAF	*Same as 550.*
553	ROTARY VACUUM FILTERS (OLIVER)	Identify material being filtered; record amount collected; (a) lbs./day, (b) lbs./year, CFM exhausted, type of control.
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EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
	XIV. SCREENING—Separation of materials on basis of particle size	
575	GRIZZLIER SCREEN	Identify material screened; exhaust CFM if controlled. If not controlled, record lbs./day.
576	ROTEX SCREEN	*Same as 575.*
577	VIBRATING SCREEN	*Same as 575.*
578	ELECTROMAGNETIC SCREEN	*Same as 575.*
579	TROMMELS	*Same as 575.*
580	REELS	*Same as 575.*
581	MERCONES (CENTRIFUGAL SCREENS)	*Same as 575.*
582	AIR SEPARATORS (CYCLONES)	Identify material transported by air (beans, elbow macaroni, etc.); record: (a) lbs./hour, (b) lbs./day, CFM, type of control.
583	STONERS (*remove rocks, etc.*) PEANUTS, COFFEE, ETC.	Identify material being stoned; record product lbs./day, exhaust CFM, type of control.
584	BLANCHERS (MAKE WHITE BY REMOVING SKIN)	Identify material blanched (nuts, etc.); record product lbs./day, CFM exhaust, type of control.
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EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
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XV. CRYSTALLIZATION—Separation of a solid crystalline material from the liquid solution by cooling, evaporation or both

600	CRYSTALLIZERS (EX: SWENSON—WALKER)	Identify materials amd concentration of pollutant; record lbs./day, type of control.
601	VACUUM CRYSTALIZERS (EX: SWENSON EVAPORATOR)	*Same as 600.*
602	SOLIDS CONDENSOR	*Same as 600.*
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EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
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XVI. CENTRIFUGATION—Separation of solids from fluids, of different densities by imparting centrifugal force to the solution

625	BASKET CENTRIFUGES	Identify refuse (oil etc.) separated from product; record refuse collected lbs./day, type of control.
626	AUTOMATIC BATCH CENTRIFUGES (EX: SHARPLER CORPORATION)	*Same as 625.*
627	AUTOMATIC BATCH HORIZONTAL, CENTRIFUGES (EX: BAKER PERKINS)	*Same as 625.*
628	CONTINUOUS PERFORATE-BASKET	*Same as 625.*
629	TUBLAR-BOWL CENTRIFUGES (EX: SHAPLER)	*Same as 625.*
630	DISK BOWL CENTRIFUGES (EX: DeLAVAL)	*Same as 625.*
631	ULTRACENTRIFUGES	*Same as 625.*
632	MERCO CENTRIFUGES	*Same as 625.*
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EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
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XVII. DISINTEGRATION—Size reduction of solid materials

650	CRUSHERS	Identify material crushed; record tons of production/day and/or CFM exhausted, type of control.
651	HAMMER MILLS	Identify material milled (reduced); tons/year, CFM exhausted, type of control.
652	SHREDDERS	*Same as 651.*
653	GRINDERS	Identify material ground and CFM exhausted, type of control.
654	BALL MILLS	Identify material milled; record tons of production/year and CFM if mill is exhausted, type of control.
655	ROLLER MILLS	*Same as 654.*
656	ROD MILLS	*Same as 654.*
657	DISC CRUSHERS	*Same as 654.*
658	HOGGERS	*Same as 654.*

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
659	GRINDING AREA	*Same as 654.*
660	CRUSHING AREA	*Same as 654.*
661	MILLING AREA	*Same as 654.*
662	PULPERS	Identify product; record tons of production/year and CFM if exhausted, type of control.
663	SCARFING MACHINE	Record CFM if exhausted, tons of steel scarfed/year, type of control.
664	BREAKERS	*Same as 654.*
665	FLAKERS	*Same as 654.*
666	SLICERS	*Same as 654.*
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XVIII. MATERIALS HANDLING—Preparation and handling of materials

700	GENERAL CONVEYING AREA	Identify materials conveyed; record annual production through area, CFM if area is exhausted, type of control.
701	BELT CONVEYOR	Identify product; amount of material transferred on conveyor; (a) lbs./day, (b) lbs./year, CFM if exhausted, type of control.

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
702	CHAIN CONVEYOR	*Same as 701.*
703	SCRAPER CONVEYOR	*Same as 701.*
704	APRON CONVEYOR	*Same as 701.*
705	BUCKET CONVEYOR	*Same as 701.*
706	SCREW CONVEYER	*Same as 701.*
707	PNEUMATIC CONVEYOR	Identify material conveyed; record product transferred (a) lbs./day, (b) lbs./year, CFM, type of control.
708	FLUIDIZERS	*Same as 707.*
709	BUCKET ELEVATORS	*Same as 701.*
710	TRIMMERS AND TRIMMING AREAS	Identify product; record production/tons/year, also CFM if area is exhausted, type of control.
711	PACKAGING AREA	*Same as 710.*
712	TRUCKING AREA (EX. LOADING AREAS, UNLOADING AREAS)	Identify product being loaded/unloaded; (a) lbs./day, (b) lbs./year, record CFM if area is exhausted, type of control.
713	SAWING AREA	Identify material sawed; record CFM if area or machinery is exhausted to a control device.
714	CUTTING AREA	Wood, metal, plastic, all materials—*Same as 713.*
715	WEIGHING STATIONS	*Same as 710.*
716	BAGGING OPERATIONS	*Same as 710.*
717	MEASURING STATIONS	*Same as 710.*
718	MILLING AREAS	All materials—*same as 713.*
719	ASSEMBLY AREAS	All materials—record CFM exhausted from area.
720	POLISHING AREAS	*Same as 713.*
721	BUFFING AREAS	*Same as 713.*

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
722	SHAKE OUT AREAS	Ex: foundry moulds—record CFM exhausted, type of control.
*723	FUEL STORAGE TANKS	Identify material in tank; record tank capacity in gallons, amount of fuel stored (fuel used from storage gal./year), type of vent, type of control.
*724	SOLVENT STORAGE TANKS	*Same as for 723.*
*725	OTHER STORAGE TANKS FOR LIQUIDS	Ex: holding tanks—*same as for 723.*
726	BALING AREA	Identify material baled; record CFM if area is exhausted, type of control.
727	CRUDE FINISHING AREA	Deburring, wheelabrators, pangborns—identify material processed; record CFM exhausted, type of control.
728	ANIMAL PEN AREA	Record size and number of pens; maximum number of animals in pens and duration; clean-up frequency.
729	FORMULATING AREA	Ex: chemical—identify formulations; record CFM if area is exhausted, type of control.
730	STORAGE ROOMS, BINS AND HOPPERS	Flour—identify material stored; method of load and unloading bins (such as pneumatic-blow; gravity feed), amount transferred in tons/year, also CFM if process is exhausted, type of control.
731	STORAGE ROOMS, BINS AND HOPPERS	Grain elevators—*same as 730.*
732	STORAGE ROOMS, BINS AND HOPPERS	Materials for scavenger pickup—*same as 730.*
733	STORAGE ROOMS, BINS AND HOPPERS	Materials for other processes—*same as 730.*
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735	SANDING AREA	*Same as 713.*
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*Emission to be calculated on gassing rate.

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
737	LIQUID FILLING MACHINES	Record product filled; (a) gal./day, (b) gal./year; also CFM if operation is exhausted, type of control.
738	PELLETIZER	*Same as 710.*
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740	TRIPPERS	Grainary—for directing loading operation—*same as 707*, type of control.
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XIX. PROCESSING AREAS—Other special areas where chemical or other processing is done

800	MACHINING PROCESS (METAL)	Record CFM exhausted, type of control.
801	WOODWORKING PROCESS OR AREAS	*Same as 800.*
802	CHEMICAL ANALYSIS LABORATORY	*Same as 800;* also identify process and work performed.
803	COOKING PROCESS	Identify material cooked; record CFM exhausted, make odor survey, type of control.
804	MATERIAL PROCESSING AREA	Special material handling—identify material processed; record lbs./day, CFM exhausted, type of control.
805	MATERIAL WASHING PROCESS	Identify pollutant washed from product; record CFM exhausted, type of control.

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
806	MATERIAL TESTING PROCESS	Identify process; record CFM exhausted, type of control.
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XX. METAL MELTING—converting metal to liquid form for the purpose of casting and/or the changing of properties

900		
901	IRON-BLAST FURNACE	Record production (tons/year); record CFM exhausted; furnace capacity (tons/melt), type of control
902	IRON CUPOLA (HOT)	*Same as 901.*
903	IRON CUPOLA (COLD)	*Same as 901.*
904	IRON-FRIT ROTARY	*Same as 901.*
905		

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
906		
907	MALLEABLE—CUPOLA (HOT)	*Same as 901.*
908	MALLEABLE—CUPOLA (COLD)	*Same as 901.*
909	MALLEABLE—ELECTRIC INDUCTION	*Same as 901.*
910	MALLEABLE—ELECTRIC ARC	*Same as 901.*
911	MALLEABLE—REVERBATORY	*Same as 901.*
912		
913		
914	GRAY IRON—CUPOLA (HOT)	*Same as 901*
915	GRAY IRON—CUPOLA (COLD)	*Same as 901.*
916	GRAY IRON—ELECTRIC INDUCTION	*Same as 901.*
917	GRAY IRON—ELECTRIC ARC	*Same as 901.*
918	GRAY IRON—REVERBATORY	*Same as 901.*
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920		
921	STEEL—OPEN HEARTH	*Same as 901.*
922	STEEL—OPEN HEARTH (OXYGEN LANCED)	*Same as 901.*
923	STEEL—ELECTRIC ARC (5 TON)	*Same as 901.*
924	STEEL—ELECTRIC ARC (5–20 TON)	*Same as 901.*
925	STEEL—ELECTRIC ARC (50–75 TON)	*Same as 901.*
926	STEEL—ELECTRIC INDUCTION (5 TON)	*Same as 901.*
927	STEEL ELECTRIC INDUCTION (5–20 TON)	*Same as 901.*

EQUIP-MENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
928	STEEL—ELECTRIC INDUCTION (50–75 TON)	*Same as 901.*
929	STEEL—B.O.F.	*Same as 901.*
930	STEEL—BESSEMER CONVERTER	*Same as 901.*
931	STEEL—GLASS BOTTLE REVERBATORY	*Same as 901.*
932	SCRAP—OPEN HEARTH	Record production tons/year, also CFM exhausted, type of control.
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940	ALUMINUM—CRUCIBLE	*Same as 901.*
941	ALUMINUM—REVERBERATORY	*Same as 901.*
942	ALUMINUM—SWEATING (*SCRAP*)	*Same as 901.*
943		
944		
945	BRASS (*RED*)—CRUCIBLE INDIRECT FIRED	Record production tons/year and CFM exhausted, capacity tons/melt, type of control.
946	BRASS (*RED*)—ROTARY	*Same as 945.*
947	BRASS (*RED*)—REVERBERATORY	*Same as 945.*
948	BRASS (*RED*)—ELECTRIC INDUCTION	*Same as 945.*

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
949	BRASS (*YELLOW*)—CRUCIBLE	*Same as 945.*
950	BRASS (*YELLOW*)—ROTARY DIRECT FIRED	*Same as 945.*
951	BRASS (*YELLOW*)—REVERBERATORY	*Same as 945.*
952	BRASS (*YELLOW*)—ELECTRIC INDUCTION	*Same as 945.*
953	BRASS (*YELLOW*)—ELECTRIC ARC	*Same as 945.*
954		
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956	BRONZE—CRUCIBLE	*Same as 945.*
957	BRONZE—ROTARY	*Same as 945.*
958	BRONZE—ELECTRIC ARC	*Same as 945.*
959	BRONZE—ELECTRIC INDUCTION	*Same as 945.*
960		
961		
962	COPPER—CRUCIBLE	*Same as 945.*
963	COPPER—ROTARY	*Same as 945.*
964	COPPER—ELECTRIC INDUCTION	*Same as 945.*
965		
966		
967	LEAD—SECONDARY BLAST	Record production tons/year and CFM exhausted. Furnace capacity, tons/melt, type of control.
968	LEAD—SINTERING (SWEATING)	*Same as 967.*
969	LEAD—REVERBERATORY	*Same as 967.*

EQUIPMENT CODE NO.	EQUIPMENT DESCRIPTION	EMISSION DATA
970	LEAD—CRUCIBLE	*Same as 967.*
971		
972		
973	MAGNESIUM—CRUCIBLE	*Same as 967.*
974		
975		
976	ZINC—CRUCIBLE	*Same as 967.*
977	ZINC—REDUCING FURNACE	*Same as 967.*
978	ZINC—MELTING	*Same as 967.*
979	ZINC—SINTERING	*Same as 967.*
980		
981		
982	METAL MELTING AREA	Record production tons/year, CFM exhausted from area, type of control.

* U.S. GOVERNMENT PRINTING OFFICE : 1968 O - 333-713